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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
DASTOURI, MEHRDAD

ART UNIT	PAPER NUMBER
2623	

DATE MAILED: 03/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<table>
<tr><td rowspan="2">Office Action Summary</td><td>Application No.</td><td colspan="2">Applicant(s)</td></tr>
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	Application No.	**Applicant(s)**	
Office Action Summary	09/960,583	MANASSE ET AL.	
	Examiner	**Art Unit**	
	Mehrdad Dastouri	2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _____.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-29* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-29* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☒ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on *21 September 2001* is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some *   c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *9/21/2001*.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Specification

1.   Hyperlinks and/or other forms of browser-executable code are not allowed to be

embedded in the text of the patent application, the embedded hyperlinks and/or other

forms of browser-executable code are impermissible and should be deleted.

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3.   Claims 1-13, 15-27 and 29 are rejected under 35 U.S.C. 102(b) as being

anticipated by Daugman (U.S. 5,291,560).

Regarding Claim 1, Daugman discloses a method for finding one or more target

biometric samples that are similar to or match a query biometric sample, comprising:

generating a query feature vector from a query biometric vector that represents

said query biometric sample, said query feature vector comprising a plurality of features

and said query biometric vector comprising a set of characteristics (Abstract, Lines 3-

11; Figure 2, analysis bands 112; Column 3, Lines 1-20; Column 8, Lines 15-64); and

comparing said query feature vector to a plurality of target feature vectors, each

target feature vector representing a respective target biometric sample (Abstract, Lines

16-24; Column 3, Lines 10-20);

wherein,

a target biometric sample is a potential match to said query biometric sample

when a threshold number of features in the target feature vector that corresponds to

said target biometric sample are identical to features in said query biometric vector

(Figure 5; Column 3, Lines 10-20; Column 12, Lines 54-68, Column 13, Lines 1-20;

Column 15, Lines 29-38).

Regarding Claim 2, Daugman further discloses the method of Claim 1 , wherein

the generating comprises:

extracting a set of tiles that represents said query biometric sample, each tile

including a plurality of characteristics (Figure 2, analysis bands 112; Column 8, Lines

15-24);

assigning an identification element to each said tile in said set of tiles (Figure 2,

analysis bands 112; Column 8, Lines 49-64. Each analysis band (tile) is identified by its

polar coordinates, angular coordinate between o-360 degrees and radial coordinate

between 0-1.);

selecting a predetermined number of the identification elements (Column 9, Lines

26-29);

partitioning the selected identification elements into a plurality of partitioned

groups (Column 9, Lines 26-29, Eight angular bands); and

applying a fingerprint function to each partitioned group to generate a set of

features, said set of features representing said query feature vector (Figure 1, Steps 20-

24; Column 4, Lines 58-65).

Regarding Claim 3, Daugman further discloses the method of Claim 2, wherein

said extracting step further comprises:

canonicalizing each characteristic associated with said query biometric sample to

create a plurality of canonicalized characteristics (Figure 1, Step 20, producing iris code;

Column 4, Lines 53-62; Canonicalizing is conforming to a general rule or acceptable

procedure.); and

obtaining a pseudo randomly selected subset of said plurality of canonicalized

characteristics to form each said plurality of characteristics included in said set of tiles

(Figures 5-10; Column 15, Lines 29-68, Column 16, Lines 1-24).

Regarding Claim 4, Daugman further discloses the method of Claim 3, wherein a

characteristic associated with said query biometric sample is a variable characteristic

and said canonicalizing step includes expansion of said variable characteristic using a

predetermined function (Figure 2, Step 20, producing iris code; Column 13, Lines 42-68,

Column 14, Lines 1-38).

Regarding Claim 5, Daugman further discloses the method of Claim 3, wherein

said canonicalization of each said characteristic associated with said query biometric

sample includes application of a respective weight to each said characteristic, the

respective weight determining a number of copies of said characteristic that are present

in said plurality of canonicalized characteristics (Column 8, Lines 39-48; Column 20,

Lines 45-53).

With regards to Claim 6, arguments analogous to those presented for Claim 2

are applicable to Claim 6. As illustrated in Figure 1, Steps 20-24, and disclosed in

Column 4, Lines 60-65, the same algorithm implemented for producing iris code for a

reference iris (Target biometric samples) are applied for producing an input iris code

(Query biometric sample).

With regards to Claim 7, arguments analogous to those presented for Claims 3

and 6 are applicable to Claim 7.

With regards to Claim 8, arguments analogous to those presented for Claims 4

and 6 are applicable to Claim 8.

With regards to Claim 9, arguments analogous to those presented for Claims 5

and 6 are applicable to Claim 9.

Regarding Claim 10, Daugman further discloses the method of Claim 2, wherein

the selecting includes selecting the identification elements using a selection function

(Column 10, Lines 22-40).

With regards to Claim 11, arguments analogous to those presented for Claim 10

are applicable to Claim 11.

Regarding Claim 12, Daugman further discloses method of Claim 2, wherein

each of the set of features is a one-way hash of a group (Figure 12; Column 16, Lines

25-68, Column 17, Lines 1-39. Hamming Distance criterion is the one-way hash of iris

codes.).

With regards to Claim 13, arguments analogous to those presented for Claim 12

are applicable to Claim 13.

With regards to Claims 15 and 29, arguments analogous to those presented for

Claim 1 are applicable to Claims 15 and 29.

With regards to Claim 16, arguments analogous to those presented for Claim 2 are applicable to Claim 16.

With regards to Claim 17, arguments analogous to those presented for Claim 3 are applicable to Claim 17.

With regards to Claim 18, arguments analogous to those presented for Claim 4 are applicable to Claim 18.

With regards to Claim 19, arguments analogous to those presented for Claim 5 are applicable to Claim 19.

With regards to Claim 20, arguments analogous to those presented for Claim 6 are applicable to Claim 20.

With regards to Claim 21, arguments analogous to those presented for Claim 7 are applicable to Claim 21.

With regards to Claim 22, arguments analogous to those presented for Claim 8 are applicable to Claim 22.

With regards to Claim 23, arguments analogous to those presented for Claim 9 are applicable to Claim 23.

With regards to Claim 24, arguments analogous to those presented for Claim 10 are applicable to Claim 16.

With regards to Claim 25, arguments analogous to those presented for Claim 11 are applicable to Claim 25.

With regards to Claim 26, arguments analogous to those presented for Claim 12 are applicable to Claim 26.

With regards to Claim 27, arguments analogous to those presented for Claim 13 are applicable to Claim 27.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5.   Claims 14 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Daugman (U.S. 5,291,560) in view of Glass et al. (U.S. 6,332,193).

Regarding Claim 14, Daugman further discloses the method of Claim 1, wherein the comparing includes:

extracting from a database a set of target feature vectors, each extracted target feature vector including at least one feature that is in common with a feature in said query feature vector (Column 12, Lines 29-41);

locating each target feature vector in the set of target feature vectors in a count hash table, the count hash table including target feature vector identifications corresponding to target feature vectors that share at least one feature in common with the target feature vector (Column 12, Lines 41-68, Column 13, Lines 1-25); and

incrementing the count of matching features for each located target feature identification (Figure 12; Column 16, Lines 25-68, Column 17, Lines 1-39).

Daugman does not explicitly disclose the count hash table including a count of matching features for each target feature vector represented by the table.

Glass et al. disclose a method for secure transmission of biometric data comprising a count hash function including a count of matching features for each target feature vector represented by the function (Column 6, Lines 34-67, Column 7, Lines 1-2).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate Glass et al.'s invention in Daugman hash table depicted in Figure 12 to teach the count hash table including a count of matching features for each target feature vector represented by the table because it will provide more accurate detection results by implementing this fundamental hash procedure.

With regards to Claim 28, arguments analogous to those presented for Claim 14 are applicable to Claim 28.

Contact Information

6.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mehrdad Dastouri whose telephone number is (703) 305-2438. The examiner can normally be reached on Monday to Friday from 8:00 a.m. to 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on (703) 308-6604. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Mehrdad Dastouri
Primary Examiner
Art Unit 2623
March 19, 2005

MEHRDAD DASTOURI
PRIMARY EXAMINER

Mehrdad Dastouri